

In the Claims:

Claims 1 – 74 (Canceled).

Claim 75. (NEW) A new method for the evaluation of ligand binding using recognizable hapten-conjugated ligands, comprising:

- [a] applying a hapten-ligand, comprising a ligand possessing a recognizable hapten, to a known quantity of a binding surface, and,
- [b] waiting for a period of time, so as to allow a binding of said hapten-ligand to said binding surface, thereby producing a bound ligand, and,
- [c] removing any unbound hapten-ligand, from said binding surface, and,
- [d] solubilizing said bound ligand; with or without solubilizing said binding surface, thereby producing a solubilized mixture, and,
- [e] preparing standards, comprising solutions containing increasing levels of known amounts of the hapten-ligand, and,
- [f] applying onto a membrane support, said solubilized mixture, and said standards, thereby producing membrane-bound hapten-ligand and,
- [h] detecting said membrane-bound hapten-ligand, thereby producing a signal, and,
- [i] determining the amount of the membrane-bound hapten-ligand contained in said solubilized mixture, by comparing its said signal to said signal arising from the membrane-bound hapten-ligand contained in said standards and,

whereby the determining of the amount of the membrane-bound hapten-ligand contained in said solubilized mixture, is used to determine the amount of said hapten-ligand originally bound to each said known quantity of binding surface, and, whereby the use of radiolabeled ligand is avoided.

Claim 76. (NEW) The method of claim 75, wherein said ligand being applied to said binding surface in step [a], is comprising a mixture of: said hapten-ligand, and said ligand which does not possess said hapten, and, whereby said signal from step [h] arising from said solubilized mixture containing both said hapten-ligand, and said ligand which does not possess said hapten; is compared to said signal arising from said solubilized mixture containing said hapten-ligand only; thereby verifying the competition for binding to said binding surface between said hapten-ligand, and said ligand which does not possess said hapten; thus verifying the specific binding of said hapten-ligand to said binding surface.

Claim 77. (NEW) The method of claim 75, wherein the producing of said membrane-bound hapten-ligand of step [f] is further comprising:
[a] the separating of said solubilized mixture, thereby producing separated unknowns, and,

[b] the separating of said standards, thereby producing separated standards, and,

[c] the applying of said separated unknowns and said separated standards to said membrane support, and,

whereby the location of said hapten-ligand, contained in said separated unknowns, on said membrane support, is verified by comparing its said signal to the location of said signal arising from said separated standards, on said membrane support.

Claim 78. (NEW) The method of claim 77, wherein said separating in step [a], and step [b], includes the method of electrophoresis.

Claim 79. (NEW) The method of claim 78 wherein said method of electrophoresis is selected from the group consisting essentially of sodium dodecyl sulfate polyacrylamide electrophoresis, electrophoresis according to Schagger Von Jagow, and agarose electrophoresis.

Claim 80. (NEW) The method of claim 75 step [h], wherein said detecting of said membrane-bound hapten-ligand is further comprising:

[a] applying an enzyme-conjugated antibody to said hapten on said membrane support, and,

[b] detecting said enzyme-conjugated antibody to said hapten on said membrane support, by the applying of a substrate for its enzyme,

whereby said substrate produces said signal primarily at the location of said enzyme-conjugated antibody to the hapten, on said membrane support, and, whereby the sensitive detecting of said hapten-ligand is afforded by the use of said anti-hapten antibody.

Claim 81. (NEW) The method of claim 80 step [a], wherein said enzyme includes horseradish peroxidase.

Claim 82. (NEW) The method of claim 75 step [h], wherein said detecting of said membrane-bound hapten-ligand is further comprising:

- [a] applying an anti-hapten antibody to said membrane support and,
- [b] applying an enzyme-conjugated antibody to the anti-hapten antibody, to said membrane support, and,
- [c] detecting said enzyme-conjugated antibody to the anti-hapten antibody, on said membrane support; by the applying of a substrate for its enzyme, whereby said substrate produces said signal primarily at the location of said enzyme-conjugated antibody to the anti-hapten antibody, on said membrane support, and, whereby the sensitive detecting of said hapten-ligand is afforded by the use of said antibodies.

Claim 83. (NEW) The method of claim 82 step [b], wherein said enzyme includes horseradish peroxidase.

Claim 84. (NEW) The method of claim 75, wherein said binding surface includes biological cells.

Claim 85. (NEW) The method of claim 75, wherein said hapten includes compounds which can be specifically recognized by an antibody.

Claim 86. (NEW) The method of claim 75, wherein said hapten is selected from the group consisting essentially of, fluorescein, biotin, rhodamine, and digoxigenin.

Claim 87. (NEW) The method of claim 75, wherein said ligand is a biological factor.

Claim 88. (NEW) The method of claim 75, wherein said ligand is a protein..

Claim 89. (NEW) The method of claim 81, wherein said protein is selected from the group consisting essentially of transferrin, concanavalin A, avidin, annexin V, and insulin.

Claim 90. (NEW) The method of claim 75, wherein said ligand is DNA.

Claim 91. (NEW) The method of claim 75, wherein said applying onto a membrane method includes blotting.

Claim 92. (NEW) The method of claim 91, wherein said blotting method is selected from the group consisting essentially of electroblotting, dot blotting, slot blotting, or Western blotting.

Claim 93. (NEW) The method of claim 75, wherein said membrane support includes conventional transfer membranes.

Claim 94. (NEW) The method of claim 75, wherein said membrane support is selected from the group consisting essentially of protein binding membranes, and nucleic acid binding membranes.

Claim 95. (NEW) The method of claim 75, wherein said membrane support is selected from the group consisting essentially of nitrocellulose, or nytran.

Claim 96. (NEW) The method of claim 75 step [h], wherein said signal is further comprising color or light emanating from said membrane support.